

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 818 923 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
19.08.1998 Bulletin 1998/34

(51) Int Cl. 6: H04N 5/44

(43) Date of publication A2:  
14.01.1998 Bulletin 1998/03

(21) Application number: 97305128.7

(22) Date of filing: 11.07.1997

(84) Designated Contracting States:  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC  
NL PT SE

(30) Priority: 12.07.1996 JP 183509/96

(71) Applicant: KABUSHIKI KAISHA TOSHIBA  
Kawasaki-shi, Kanagawa-ken 210 (JP)

(72) Inventors:

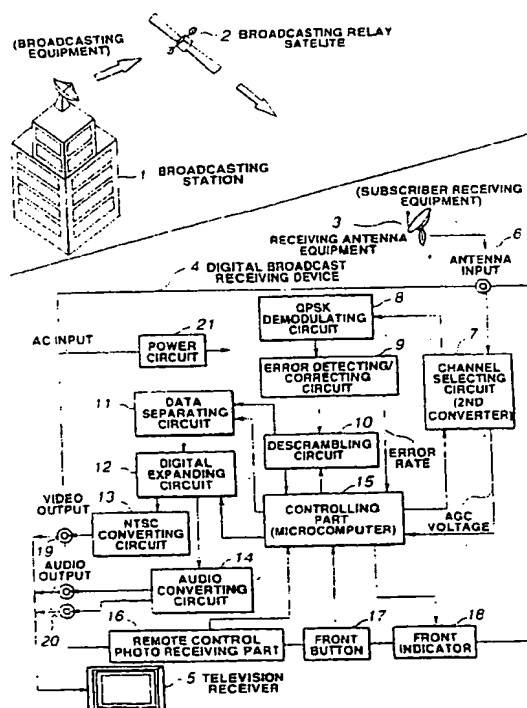
- Shigihara, Hideo  
Fukaya-shi, Saitama-ken, 366 (JP)
- Nonaka, Yasuyuki  
Fukaya-shi, Saitama-ken, 366 (JP)

(74) Representative: Waldren, Robin Michael  
MARKS & CLERK,  
57-60 Lincoln's Inn Fields  
London WC2A 3LS (GB)

## (54) Digital broadcast receiving device

(57) An error detecting/correcting circuit 9 in a digital broadcast receiving device calculates a error rate from the error amount for the amount of input information. A controlling part 15 converts the error rate into the C/N ratio as a receiving signal quality and indicates it on a screen of a TV receiver 5 or other indicator 18. In this method, after digitally demodulating the received digital broadcasting signal, the error rate is obtained by an error detecting part 9 and the error rate is converted into the receiving signal quality for indication. Therefore, compared with the reception performance indication based on the input level such as the AGC voltage, the method is high both in precision and in stability. The receiving signal quality can be detected only while receiving a digital broadcasting signal, so with reference to the converted receiving signal quality in antenna bearing adjustment, a digital broadcasting signal can be surely received without confusing it with an analog broadcasting signal.

FIG.1



EP 0 818 923 A3



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 5128

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X A	WO 92 12600 A (FERGUSON) 23 July 1992 * page 1, line 1 - page 2, line 7 * * page 3, line 1 - line 12 * * page 6, last paragraph *	1,2,4,11 3	H04N5/44
A	EP 0 687 028 A (THOMSON CONSUMER ELECTRONICS) 13 December 1995 * column 1, line 7 - column 2, line 46 * * column 7, line 36 - column 9, line 45 * * column 10, line 57 - column 11, line 19 *	1-4,7,11	
A	US 4 935 814 A (OMOTO ET AL) 19 June 1990 * the whole document *	1-3,11	
A	WO 88 04862 A (TELEFUNKEN FERNSEH UND RUNDFUNK) 30 June 1988 * page 5, line 12 - page 6, line 6 *	1-5,9,11	
A	US 5 287 115 A (WALKER ET AL.) 15 February 1994 * column 1, line 60 - column 2, line 25 *	1,3,11	
A	US 5 483 690 A (SCHRÖDER) 9 January 1996 * abstract; figure 1 *	1,4,5,11	
A	US 5 289 178 A (SCHWENDEMAN) 22 February 1994 * abstract; figure 3 *	1,11	
A	EP 0 507 440 A (BAYNE) 7 October 1992 * column 6, line 17 - line 24 *	3,9	
A	US 5 371 550 A (SHIBUTANI ET AL.) 6 December 1994 * abstract; figure 17 * * column 18, line 60 - column 19, line 26 *	3,9	
		-/--	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 June 1998	Examiner Berwitz, P
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on or after the filing date D : document cited in the application L : document cited for other reasons S : member of the same patent family, corresponding document	

EPO FORM 1503 (03/83) (Pst/Cot)



European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 97 30 5128

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 5 436 675 A (HAYASHI ET AL.) 25 July 1995 * abstract; figure 2 *	8	
P.X	US 5 574 509 A (CITTA ET AL.) 12 November 1996	1,11	
P.A	* the whole document *	2	
<p>The present search report has been drawn up for all claims</p>			<p>TECHNICAL FIELDS SEARCHED (Int.Cl.6)</p>
Place of search		Date of completion of the search	Examiner
THE HAGUE		26 June 1998	Berwitz, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone          ✓ : particularly relevant if combined with another document of the same category          A : technological background          O : non-written disclosure          □ : intermediate document</p> <p>— : theory or principle underlying the invention          E : earlier patent document, but published on or after the filing date          D : document cited in the application          L : document cited for other reasons          S : member of the same patent family, corresponding document</p>			

EP 0 FORM 1503 (01.02.97) (P/4/01)